REMARKS/ARGUMENTS

The non-final Office Action of December 6, 2007 has been carefully reviewed and this paper is responsive thereto. Claims 23-25, 27-31, 33-43 and 45-50 were pending in the application and stand rejected. By this response, claims 23, 29, 37 and 39 have been amended and claims 24 and 36 have been canceled. No new matter has been introduced into the application. As explained in more detail below, Applicants submit that all claims are in condition for allowance and respectfully request such action.

Abstract

The Abstract was noted to be in excess of 150 words. The Abstract has been amended to delete one sentence, and now contains 144 words.

Specification

Line 1 of paragraph [0021] and line 1 of paragraph [0035] were objected to due to informalities. Paragraphs [0021] and [0035] have been amended to make the appropriate corrections.

Claim Amendments

Claims 23, 29, 37 and 39 have been amended. Claim 23 has been amended to include the feature of "computer control that reads and executes stored program instructions that cause the pumping mechanism to pump the extracted fluid according to the program." This amendment is supported at least by claim 24 (which has been canceled) and paragraph [0016] of the application as originally filed.

Claim 29 has been amended to include the feature of "means for measuring the electrical conductivity of the brain fluid after the modulated ion-content fluid is injected into the patient's brain; the fluid pumping mechanism or fluid ion adjustment mechanism including means for adjusting the delivery of the modulated ion-content fluid, based upon the measured electrical conductivity of the brain fluid." This amendment is supported at least by claim 36 (which has been canceled) and paragraph [0009] of the application as originally filed. As discussed in more detail below, claim 29 has also been amended to delete the term "brain" from part b) of the claims.

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Claims 37 and 39 both originally depended from claim 36, which is now canceled, thus claims 37 and 39 have each been amended to depend from pending claim 29.

Double Patenting Rejection

Claim 23 was rejected under 35 U.S.C. § 101 for claiming the same invention as that of claim 1 of prior U.S. Patent No. 6,551,301. As noted above, by this response claim 23 has been amended to include the feature of "computer control that reads and executes stored program instructions that cause the pumping mechanism to pump the extracted fluid according to the program." Claim 1 of the '301 patent does not include such a feature, thus the 35 U.S.C. § 101 rejection is respectfully requested to be withdrawn.

Claims 24-25, 27-31, 33-43 and 45-50 were rejected on the ground of nonstatutory obvious-type double patenting as being unpatentable over claims 1-3 and 5-21 of U.S. Patent No. 6,551,301. A Terminal Disclaimer is being filed concurrently with this response, rendering the rejection moot.

Claim Rejections - 35 U.S.C. § 112

Claim 29 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Specifically, the limitation "said brain fluid pumping mechanism" was rejected as not having proper antecedent basis. Claim 29 has been amended to delete the term "brain" from "said brain fluid pumping mechanism." "Said fluid pumping mechanism" does have antecedent support in part a) of the claim, thus the Applicants respectfully request withdrawal of this rejection.

Claim Rejections - 35 U.S.C. § 102

Claims 29-31, 42-43 and 45 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,445,500 to Osterholm ("Osterholm"). As noted above, independent claim 29 has been amended to include an additional feature. Amended claim 29 now recites the following:

29. A system for controlling epileptic seizures comprising:
    a) a fluid pumping mechanism, having an input, coupled to a fluid source selected from the group consisting of a patient's brain and a source other a patient's brain, and having an output;

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b) a fluid ion adjustment mechanism coupled to said output of said fluid pumping mechanism, said fluid ion adjustment mechanism having an output from which modulated ion-content fluid is produced;

c) a catheter, having an input coupled to the output of said ion adjustment mechanism and having an output inserted into a predetermined region of a patient's brain, whereby modulated ion-content fluid can be injected into the brain; and

d) means for measuring the electrical conductivity of the brain fluid after the modulated ion-content fluid is injected into the patient's brain; the fluid pumping mechanism or fluid ion adjustment mechanism including means for adjusting the delivery of the modulated ion-content fluid, based upon the measured electrical conductivity of the brain fluid.

Osterholm is directed to a method for circulating a nutrient formulation through cerebrospinal fluid pathways. (See Col. 6, lines 25-27 of Osterholm.) Osterholm does not disclose means for measuring electrical conductivity of brain fluid. Further, Osterholm does not disclose a "fluid pumping mechanism or fluid ion adjustment mechanism including means for adjusting the delivery of the modulated ion-content fluid, based upon the measured electrical conductivity of the brain fluid." Osterholm does not disclose every feature of amended claim 29 and therefore cannot be considered to anticipate amended independent claim 29. Claims 30-31, 42-43 and 45 depend from claim 29 and are patentable over Osterholm for at least the same reasons as claim 29 and for the additional features recited therein.

Claim Rejections - 35 U.S.C. § 103

Claims 33-34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Osterholm as applied to claim 29 and further in view of U.S. Patent No. 6,402,941 to Lucido et al. ("Lucido"). Claims 35, 38 and 46-48 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Osterholm as applied to claim 29 above and in view of applicant admitted prior art. Claim 49 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Osterholm in view of Lucido. The Applicants respectfully traverse the rejections. Claims 33-35, 38 and 46-49 depend from independent claim 29. Osterholm was discussed above with respect to amended independent claim 29, and does not disclose at least the features of "means for measuring the

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electrical conductivity of the brain fluid after the modulated ion-content fluid is injected into the patient's brain" and "the fluid pumping mechanism or fluid ion adjustment mechanism including means for adjusting the delivery of the modulated ion-content fluid, based upon the measured electrical conductivity of the brain fluid." Lucido does not remedy the deficiencies of Osterholm. Lucido is directed to an apparatus for delivering activated microorganisms for biological treatment of environmental contaminants and waste (*see* Title and Abstract of Lucido), and was relied on for disclosing a conductivity sensor that measures ion concentration (*see* page 6 of the 12/06/07 Office Action). The disclosure of Lucido states the following:

> "[T]he apparatus 10 is equipped with a conductivity sensor 23 which is used to measure the ion concentration in the bioreactor 11. As with the turbidity sensor, the conductivity sensor 23 may be attached to an alarm which is activated when the ion concentration fluctuates above or below a pre-determined level.....the central station can assess the problem and dispatch a repair unit if needed." (*See* Col. 8, lines 41-53 of Lucido).

Although Lucido discloses a conductivity sensor, Lucido does not teach measuring electrical conductivity of brain fluid after modulated ion-content fluid has been injected into a patient's brain. Further, Lucido does not teach means to adjust delivery of a fluid based on the measured electrical conductivity, but rather teaches that an alarm may be triggered and a separate entity would be sent to fix any problems. Accordingly, Lucido does not teach or suggest measuring the electrical conductivity of brain fluid in a patient's brain or providing means for adjusting delivery of modulated ion-content fluid based on the measured electrical conductivity of the brain fluid.

Applicant admitted prior art (AAPA) was relied upon as disclosing use of the Goldman equation as a well-known equation for calculating membrane potential (*see* page 6 of the 12/06/07 Office Action). This AAPA is not related to at least the features of "means for measuring the electrical conductivity of the brain fluid after the modulated ion-content fluid is injected into the patient's brain" or "the fluid pumping mechanism or fluid ion adjustment mechanism including means for adjusting the delivery of the modulated ion-content fluid, based upon the measured electrical conductivity of the brain fluid." Consequently, the relied upon AAPA does not remedy the deficiencies of Osterholm or Lucido. Claim 29, as amended, is

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patentable over a combination of Osterholm, Lucido and AAPA. Claims 33-35, 38 and 46-49 depend from claim 29 and are patentable over Osterholm in view of Lucido or AAPA for at least the same reasons as amended claim 29 and for the additional features recited therein. Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 103(a) rejections.

Conclusion

It is respectfully submitted that the pending claims are in condition for allowance. The Examiner is invited to contact the undersigned at the telephone number provided below should it be deemed necessary to facilitate prosecution of the application.

Respectfully submitted,

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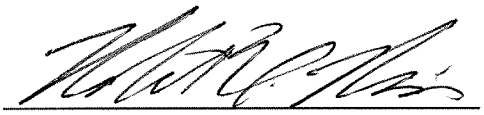
Dated: March 6, 2008 By: 

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